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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/059,238	01/31/2002	Kenichi Ono	218888US2	6552

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EXAMINER

PHAM, HAI CHI

ART UNIT

PAPER NUMBER

2861

DATE MAILED: 10/10/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/059,238	Applicant(s) ONO, KENICHI	
	Examiner Hai C. Pham	Art Unit 2861	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on RCE & Amendment filed 09/05/06.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-7,9,14-20 and 22-26 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 4-7,9,17-20,22 and 24 is/are allowed.
- 6) ☒ Claim(s) 1-3,14-16,23,25 and 26 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Request For Continued Examination

1. The request filed on 09/05/06 for a Continued Examination (RCE) under 37 CFR 1.114 based on parent Application No. 10/059,238 is acceptable and a RCE has been established. An action on the RCE follows.

Claim Objections

2. Claims 1 and 14 are objected to because of the following informalities:

Claim 1:

- The following limitation "rewritable pulse width data and phase code data may be input" at line 14 should read --rewritable pulse width data and phase code data are input-- to avoid any ambiguity since the above-mentioned input data are *required* as opposed to be *optional*.

Claim 14:

- The following limitation "rewritable pulse width data and phase code data may be input" at line 14 should read --rewritable pulse width data and phase code data are input-- to avoid any ambiguity since the above-mentioned input data are *required* as opposed to be *optional*.

Appropriate correction is required.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-3, 14-16, 23 and 25-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pugsley (U.S. 3,956,583) in view of Sasanuma et al. (US 6,091,512) and Loce et al. (US 5,387,985).

With regard to claims 1, 14 and 25, Pugsley discloses an image forming apparatus comprising an image input part (analyzing head/scanner 5) configured to input image data obtained from scanning each scan line of an original image (the image of the transparency 1 being read/scanned line by line by the analyzing head/scanner 5) (col. 2, lines 14-16) (col. 3, lines 34-36) and a data conversion part that converts a resolution of the image data input by said image input part (col. 1, line 65 to col. 2, line 13) (col. 3, lines 50-57), wherein said image input part is configured to input to said data conversion part one scan line of the image data a plurality of times in succession (the scan line image as read by the analyzing head 5 is of a first line pitch or resolution, and is modified n successive times to produce a converted image data having a pitch or resolution n times higher) (col. 1, line 65 to col. 2, line 13).

Pugsley fails to teach said data conversion part converting the resolution into a resolution different for each input scan line.

Sasanuma et al., an acknowledged prior art, discloses a multi-beam image forming apparatus comprising a density conversion part that converts a resolution density of the input image data into a resolution density different for each input scan line (each of the successive lines of the line-direction image data being subjected to a density conversion using a different conversion characteristic for each line) (see abstract) (col. 2, lines 34-44).

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to provide the device of Pugsley with a resolution density conversion part that converts a resolution density of the input image data into a resolution density different for each input scan line as taught by Sasanuma et al.

Pugsley also fails to teach the data conversion part including plural data converting parts configured to determine different pulse widths or different pulse intensities for a plurality of scan lines output successively for a single scan, the data converting parts being configured such that rewriteable pulse width data and phase code data are input, the data converting parts being selected for respective ones of the plurality of scan lines by scan line count values corresponding to the plurality of scan lines to be output so that the converted data is output.

Loce et al. discloses an image resolution conversion using a plurality of lookup tables (107-113) configured to determine different pulse widths used for each scan line, according to a pulse code and a phase code for selecting the appropriate lookup table and the line count values as provided by the line sync position (54) (Figs. 3-5).

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to incorporate the plural lookup tables, the inputs of the pulse width code and phase code and the line counter into the device of Pugsley as taught by Loce et al. The motivation for doing so would have been to accurately define the characteristics of the pulse width so as to enhance the resulting printed output of a different resolution as suggested by Loce et al.

With regard to claims 2-3, 15-16, Pugsley also fails to teach the conversion table using a storage part, a control part that sets any value for each of the scan lines in said conversion table.

Sasanuma et al. teaches said data conversion part comprising a conversion table (γ LUT) using a storage part (Fig. 13A), a control part that sets any value for each of the scanning lines in said conversion table (e.g., using a random number generator 406).

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to incorporate the conversion tables using a storage part and the random number generator for setting any value for each of the scan lines into the device of Pugsley as taught by Sasanuma et al. The motivation for doing so would have been to realize optimum grayscale reproduction of the image as suggested by Sasanuma et al. at col. 2, lines 25-26.

Allowable Subject Matter

5. Claims 4-7, 9, 17-20, 22 and 24 are allowed.

Pertinent Prior Art

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Sato et al. (US 5,926,616) discloses a printing apparatus provided with an image resolution converting section.

Response to Arguments

7. Applicant's arguments with respect to claims 1-3, 14-16, 23 and 25-26 have been considered but are moot in view of the new grounds of rejection.

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hai C. Pham whose telephone number is (571) 272-2260. The examiner can normally be reached on M-F 8:30AM - 5:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vip Patel can be reached on (571) 272-2458. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2861

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



HAI PHAM
PRIMARY EXAMINER

October 2, 2006